

REMARKS/ARGUMENTS

The claims are 1-24 with claims 25-39 having been previously withdrawn from consideration by the Examiner's directed to a non-election invention. Claims 1-6, 8-10, 17, 18, 21, 23 and 24, have been amended to improve the form of the claims. The Specification has likewise been amended to correct certain minor informalities. Reconsideration is expressly requested.

The disclosure was objected to because of certain informalities appearing on page 4, 6, and 11 which Applicant has corrected by amendment herein.

Claim 9 was objected to as containing a typographical error with respect to the symbol for "degrees" which has been corrected by the amendment to claim 9 herein.

Claim 14 was rejected under 35 U.S.C. §112, second paragraph as failing to comply with the written description requirement. Specifically, the Examiner has taken the position that the Specification as originally filed does not teach or suggest the specific temperature range or "thermoplastic range" as recited in claim 14.

This rejection is respectfully traversed.

Claim 14 recites that the heating step includes heating the material into a thermoplastic range. The Specification specifically states on page 4 that this heating can occur in the thermoelastic range of the plastic used. The detailed description of the invention under 35 U.S.C. §112, first paragraph, need only be in such full clear, concise and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same. It is respectfully submitted that one skilled in the art upon reading Applicant's disclosure would know the temperature range to which to heat the particular material to render it thermoelastic or thermoplastic. Because this temperature range depends on the material used as would be known to one skilled in the art, it is not necessary to expressly recite the temperature necessary to reach the thermoplastic range for all conceivable materials, which can be readily determined by one skilled in the art for the particular material. Accordingly, it is respectfully submitted that the rejection under 35 U.S.C. §112, first paragraph should be withdrawn.

Claims 2-24 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for the reasons set forth on page

3 of the Office Action. In response, Applicant has amended claims 1-6, 8-10, 17, 18, 21, 23 and 24 to improve their form, which, it is respectfully submitted, overcomes the Examiner's formal rejection to the claims.

With respect to claim 14, Applicant respectfully submits that the phrase "thermoplastic range" would be understood by one skilled in the art as that temperature range necessary to heat the material into a thermoplastic state, and therefore is sufficiently definite under 35 U.S.C. §112, second paragraph. Accordingly, it is respectfully submitted that all formal objections to the claims be withdrawn.

Claims 1, 4, 5, 6, and 7 were rejected under 35 U.S.C. §102(b) as being anticipated by *U.S. Patent No. 5,984,659* to *Potter*. Claims 1-3, 23 and 24 were rejected under 35 U.S.C. §103 as being unpatentable over *Crupi U.S. Patent No. 4,747,768* in view of *Schwarze U.S. Patent No. 4,137,743*. Claims 1-3 and 24 were rejected under 35 U.S.C. §103 as being unpatentable over *Uehara et al. U.S. Patent No. 4,351,178* in view of *Schwarze*. Claims 8 and 9 were rejected under 35 U.S.C. §103 as being unpatentable over either *Crupi* or *Uehara et al* in view of *Schwarze* and *Maier U.S. Patent No. 4,009,982*, and Claims 10-14 and 17-21 were rejected under 35 U.S.C. 103(a) as being

unpatentable over either *Potter* in view of *Parmann* U.S. Patent No. 3,965,715; *Crupi* in view of *Schwarze* and *Parmann*; or *Uehara* and *Schwarze* in view of *Parmann*. Claims 15 and 16 were rejected under 35 U.S.C. §103 as being unpatentable over either *Potter* in view of *Kodama et al.*, *Crupi* in view of *Schwarze*, *Parmann*, and *Kodama et al.*, or *Uehara* in view of *Schwarze*, *Parmann*, and *Kodama et al.* Claim 23 was also rejected under 35 U.S.C. §103(a) as being unpatentable over *Kodama* and *Schwarze* in view of *Parmann*. Claim 22 was not rejected on the basis of the prior art.

Essentially, the Examiner's position is that each of *Potter*, *Crupi*, and *Uehara* discloses the process recited in the rejected claims, except for (1) heating the pipes to facilitate bending of the pipes which is said to be shown by *Parmann*, (2) heating with a radiation heater which is said to be shown by *Kodama et al.*, (3) bending plural pipes at the same time which is said to be shown by *Schwarze*, (4) the use of a flexible core member in the pipes which is said to be shown in *Schwarze*, and (5) the use of sealing nipples at the end section of the pipe which is said to be shown by *Maier*.

This rejection is respectfully traversed.

As set forth in claim 1 as amended, Applicant's invention provides a process for shaping and processing pipes that uses a plurality of adjustable bending units. The bending units are moved freely along the pipes, and perform a plurality of simultaneous bending operations using the adjustable bending units. In this way, all types of pipes may be formed with a plurality of discreet bending units, and therefore complicated shaping operations can be performed in an efficient manner.

None of the cited references disclose or suggest the specific process steps recited in Applicant's claims nor teach the benefit of Applicant's process which uses a plurality of discreet bending stations which can be positioned freely, and operated simultaneously to form all types of tubes or pipes.

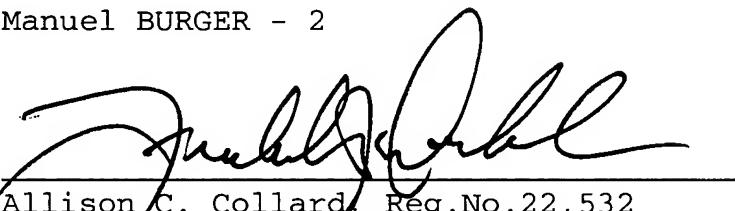
The process disclosed in the tube handling apparatus of *Potter* is a completely different bending process, and in fact only an apparatus for hot forming plastic tubes with mandrels is disclosed. There is no disclosure or suggestion of moving a plurality of bending units freely for performing different bending operations. In contrast, Applicant's process forms all types of tubes with a plurality of discreet bending units which can be positioned freely, and carry out bending operations on a piece of material at approximately the same time. The remaining

references have been considered but are considered no more pertinent. Each of these patents refer to the bending of plastic tubes, and none describe the process for bending tubes with a plurality of discreet bending stations which can be positioned freely along the pipes.

In summary, claims 1-6, 8-10, 17, 18, 21, 23, and 24, have been amended as well as the Specification. In view of the foregoing, it is respectfully requested that the claims be allowed and that this case be passed to issue.

Respectfully submitted,

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I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on August 5, 2004.



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